

REMARKS

Claims 1-28 are pending in the application. Claims 1-28 are rejected. Independent claims 1, 11, and 18 are currently amended. The Examiner's rejections to the independent claims are addressed below.

REJECTIONS UNDER 35 USC § 103

Claims 1-4, 10-16, 18-22 and 24-27 are rejected under 35 USC § 103(a) as being unpatentable over Leggett et al. '294 in view of Coates.

Claims 1-5, 10, 17-18 and 25-27 are rejected under 35 USC § 103(a) as being unpatentable over Leggett et al. '360 in view of Coates.

Claims 11 and 19 are rejected under 35 USC § 103(a) as being unpatentable over Leggett et al. (US 6,088,294) or Leggett et al. (US 6,614,360) in view of Coates.

Applicant has amended independent claims 1, 11 and 18 to reflect that a source array on the BHA generates acoustic signals in the direction of the borehole axis, or "axially" as used and disclosed in the specification (see paragraphs 26-28, 38 and 45, and Figures 3 and 5 with related descriptions). No other art of record discloses generating acoustic energy with a source array, and directing the energy in the borehole direction.

The prior art patent US 5,798,488 may produce acoustic energy in the direction of the borehole, but the '488 patent does not disclose a source array. The '488 patent discloses axially directed energy from a source that the disclosure speaks of as "an acoustic transducer" (Column 2, line 50) and "the acoustic transducer" (Column 2, line 60). The acoustic transducer is described at Column 4, line 40 to Column 5, line 9.

Applicant has further amended independent claims 1, 11 and 18 to remove the material added in the previous amendment included in the previous office action, the references to types of receivers for receiving signals from the earth formation.

In order to sustain an obviousness rejection under 35 USC § 103, two requirements must be met. First, the prior art of record must disclose all the limitations of the claimed invention. The references together and in combination do not disclose or suggest all the limitations of the claimed invention. Applicant submits that no art of record either alone or when combined with other art of record discloses or suggests all the limitations of the claimed invention. The prior art of record along with a combination of any of these references does not provide or suggest all the limitations of the present invention. There is no suggestion to combine the prior art of the present case to form the present invention. Accordingly, applicant respectfully submits that these claims, Claims 1, 11 and 18, and the claims that depend from these claims are allowable.

CONCLUSION

For all the foregoing reasons, Applicant submits that the application is in a condition for allowance. No fee is believed due for this paper. The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to Deposit Account No. 02-0429 (414-30676-US).

Respectfully submitted,

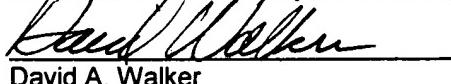


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CERTIFICATE OF FACSIMILE TRANSMISSION

I do hereby certify that this correspondence is being transmitted via facsimile, to the Commissioner for Patents, Examiner Scott A. Hughes, facsimile no. (571) 273-8300, on this 23th day of November, 2005.



David A. Walker